

Date: Sat, 4 Dec 93 04:30:13 PST
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V93 #132
To: Ham-Ant

Ham-Ant Digest Sat, 4 Dec 93 Volume 93 : Issue 132

Today's Topics:

30m --> 10m dipoles ?
Attaching "free standing" tower to building
Balanced feed lightning protection?
Cushcraft PS-4?
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Fixed antennas for satell
helical antennas
Loft Antenna help please
Opinions on Alpha-Delta DX-CC 80m-10m Inverted "V"
Packet radio info?
Quad spreaders

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 3 Dec 93 14:57:40 GMT
From: ogicse!uwm.edu!vixen.cso.uiuc.edu!bradley.bradley.edu!augustana.edu!
gganderson@network.ucsd.edu
Subject: 30m --> 10m dipoles ?
To: ham-ant@ucsd.edu

I know that a resonant half-wave 40m dipole will load up well
on 15m because of the 3/2-wave, 3rd (odd) harmonic relationship.

Will a 30m dipole antenna (for 10.1 mhz) load up similarly on 10m?
Or is the harmonic relationship, $3x = 30.3$, too far off except
for maybe the FM and high end portion? In my case, I would be

interested in the lower CW/SSB end.

Just curious. Kevin Anderson, KB9IUA

Kevin L. Anderson, Geography Dept., Augustana College
Rock Island, Illinois 61201 USA phone: (309) 794-7325
e-mail: gganderson@augustana.edu or kla@helios.augustana.edu

Date: Fri, 3 Dec 1993 22:46:41 GMT
From: newshub.nosc.mil!news!price@network.ucsd.edu
Subject: Attaching "free standing" tower to building
To: ham-ant@ucsd.edu

I have purchased a TX-455 free-standing crank-up tower from U.S. Tower; expect delivery next week. I've got a nice hole in the ground with a lot of cement in it, 3 bolts sticking up, and a base plate at the ready.

This tower will be mounted next to my garage. The question is: would the overall rigidity of this installation be enhanced by securing the tower to the garage (at the eaves with a bracket, for example)? I've heard that it's not a good idea to do that, but I don't know why. Is it too risky that if the tower falls it takes the garage with it?

I'd also like to talk to people who've installed something like this tower with something like a 2-el. 40 meter beam and a 6-el. tri-bander as that's what I'm planning to do.

73rds--Jim, K6ZH, price@nosc.mil

Date: 3 Dec 93 15:14:09 GMT
From: ogicse!emory!kd4nc!ke4zv!gary@network.ucsd.edu
Subject: Balanced feed lightning protection?
To: ham-ant@ucsd.edu

In article <CHA2qn.44E@hpcvsnz.cv.hp.com> tomb@lsid.hp.com (Tom Bruhns) writes:
>
>Certainly passive protection like spark plugs or gas discharge tubes is a
>good idea.
>

>But if the protection is sized for transmitting, then that's the sort of
>power that can get back to the sensitive components as well, from some
>particular excitation of the antenna. Because of uncharacterized changes
>in impedance with frequency, and uncharacterized transformations off the
>operating frequency, the situation could be even worse than that, if you
>want to try to design for worst-case. Would you trust your receiver
>front end with your transmitter driving it directly?

Worst case can be bad. That would be a level lower than the firing threshold that persists for a period of time. That's an unusual case though, most receivers can stand to have a transmitter burp into their inputs for a short time. Normally the levels will either be low enough, and of short enough duration, that the receiver's own front end protection can handle it, or be high enough to exceed the threshold and be clamped by the gas discharge tubes. The point about uncharacterized transforms off the operating frequency is a good one however. That could be really pesky since most of the energy in a lightning bolt hovers below 2 MHz and a conjugate match tuner might look very different at those frequencies than it does at the operating frequency.

Gary

--

Gary Coffman KE4ZV	Where my job's going,	gatech!wa4mei!ke4zv!gary
Destructive Testing Systems	I don't know. It might	uunet!rsiatl!ke4zv!gary
534 Shannon Way	wind up in Mexico.	emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244	-NAFTA Blues	

Date: Thu, 2 Dec 93 20:37:57 GMT
From: wupost!udel!darwin.sura.net!haven.umd.edu!news.umbc.edu!
europa.eng.gtefsd.com!howland.reston.ans.net!cs.utexas.edu!utnut!nott!dgbt!
clark.dgim.doc.ca!news@decwrl.dec.com
Subject: Cushcraft PS-4?
To: ham-ant@ucsd.edu

I am looking for a schematic diagram for the Cushcraft PS-4. The PS-4 is the box that switches the polarization of the Cushcraft UHF satellite antenna. Perhaps homebrewing this box is cheaper than the OEM!

Thanks

Jim, VE3XJ

Date: Thu, 2 Dec 1993 15:04:41 GMT
From: pipex!sunic!EU.net!news.funet.fi!news.cs.tut.fi!jps@uunet.uu.net
Subject: First antenna for 160 meters
To: ham-ant@ucsd.edu

In article <1993Dec2.012544.22087@news.unr.edu> arthurj@equinox.unr.edu (Art Johnson) writes:

>1. Hanging a full-size inverted vee with the apex near the top of the tower,
>i.e., 85 feet or so.

>

>VERSUS

>

>2. Putting up an inverted L. I could go up nearly 90 feet with the
>vertical part of this, would then have to angle back downwards with the
>remaining length, coming either all the way back down to the ground, or
>perhaps to the top of a 40 foot mast. For the inverted L I would probably be
>able to install only two or three radials, and I live in the high deserts
>of northern Nevada where soil conductivity is poor.

>

>My goal, initially, is to get a taste of the band and see if further
>antenna development work makes sense for me.

>

>What would YOU do in my place?

Both are nice antennas, but i think better way is to put inv. vee to your tower. Because it is easier to feed. The impedance is near 50 ohms (halfwave dipole is abt. 75 ohms and inv vee is lower than that), so you dont need to use tuner. Tuner is not needed but i recommend it. The reason is that the band is so wide for antenna. For example in Finland we have two bands on 160: 1810kHz-1850kHz and 1910kHz-1955kHz. If dipole/vee is tuned to the lower band it is not in tune on the upper band and you can't get power out. Antenna tuners build in to the rigs dont work on 160. (My TS440:s inbuilt tuner dont work. That dont mean all rigs tuners dont work)

We used dipole in cw-part of cqww this year. It worked nicely. The construction was something between dipole and vee. Feeding point was abt 90 feet above ground. We get about 50 countries but thats not the point (because in Europe its easy to work many countries). The better thing was that we worked few W:s and VE:s. Also we heard couple of JA-stations, but didn't get QS0. There is something to learn about work using split on 160m.

>

>Your comments would be gratefully received.

>

>Thanks,

>Art Johnson AA7UT

Good luck in antennawork. The 160 is funny band: Nice and weird at the same time

Jukka Salonen OH3NLP

--

** Jukka Salonen OH3NLP * E-mail: jps@cs.tut.fi *****
** Addr: Sorva *****
***** 37120 Nokia ***** Too old to Rock and Roll, too young to die.***
***** Finland *****

Date: 2 Dec 1993 12:05:09 GMT
From: olivea!inews.intel.com!ilx018.intel.com!ilx049!dbraun@uunet.uu.net
Subject: Fixed antennas for satell
To: ham-ant@ucsd.edu

The "Lindenblad" antenna (described in the ARRL Sat. Experimenter's Handbook) looks attractive. You get true omni. circular polarization at low angles. Although it is like a vertical dipole in that you get a null straight up, it still retains good circularity at relatively high angles. I did a NEC model of it, and it appears to live up to its claims. Anyone actually used one?

P.S.: It consists of 4 dipoles in sort of a cross/spiral arrangement.

--

Doug Braun Intel Israel, Ltd. M/S: IDC1-41
 Tel: 011-972-4-655069 dbraun@inside.intel.com

Date: 3 Dec 93 00:14:39 +1030
From: ucsnews!sol.ctr.columbia.edu!usc!cs.utexas.edu!swrinde!sgiblab!
munari.oz.au!foxhound.dsto.gov.au!fang.dsto.gov.au!dstos3.dsto.gov.au!
peake@network.ucsd.edu
Subject: helical antennas
To: ham-ant@ucsd.edu

In article <CH0EAy.5I7@srgenprp.sr.hp.com>, glenne@sad.hp.com (Glenn Elmore) writes:

inter alia

.....

> Rick Karlquists suggestion about using a pair of helices to generate

> linear polarization is also a useful one. If you feed a pair of helices,
> one left and the other right hand polarized, from a power splitter
> you get linear polarization.
>

The antenna design book by Jasik gives a design for four helices with alternating lh/rh polarities. Matching is achieved by noting that the feed point impedance of a single helix (as described in the text) is about 140 ohms. A tapered line segment of 140 to 200 ohms couples each helix to a centre point where 4@200 ohms in parallel gives 50 ohms. I made one of these to work at 1800 MHz (non-amateur) but was disappointed with the results. The gain was < 7dB. Analysis with a TDR showed that the impedance matching seemed to be ok apart from a low impedance dip at about the point where the helix feeds through the reflector plate. This is only about 3mm thick so I don't see how that could make such a big difference. I would be glad of any ideas about this.

Alan Peake

Date: Thu, 2 Dec 1993 20:36:41 +0000
From: agate!howland.reston.ans.net!pipex!uknet!demon!fantom.demon.co.uk!
dave@ames.arpa
Subject: Loft Antenna help please
To: ham-ant@ucsd.edu

Hello all,

I live in a house where I cannot have an outdoor antenna, so the only option open to me is for a loft antenna. Does anyone have any suggestions for the best antenna to suit my situation? I will be using 2m for voice and for packet radio. I already have a 5/8 wave mobile whip antenna, which I think is base loaded. If I were to use the 5/8, I would need some kind of ground plane, so any recommendations would be greatly appreciated.

I do not have to use the 5/8, so if anyone has a better idea I would welcome it.

Thanks in advance to anyone who can help.

Dave

--

David J. Phelps
dave@fantom.demon.co.uk

G1VZC

Date: 3 Dec 93 01:04:04 GMT
From: rtech!ingres!garys@decwrl.dec.com
Subject: Opinions on Alpha-Delta DX-CC 80m-10m Inverted "V"
To: ham-ant@ucsd.edu

In article <1993Dec2.114919.12373@kocrsv01.delcoelect.com>,
c22kw@kocrsv01.delcoelect.com (Keith Wolford) writes:
>Hello,
>
>I was just curious if anyone out there has had any experience (good
>or bad) with the Alpha-Delta DX-CC 80m-10m inverted "V" antenna.
>
>
>73's and Thank You
>Keith Wolford - N9IXG

What Timing!!!

I just put up an DX-CC 80m-10m inverted "V" antenna this last weekend. It's
up at 46 feet with the legs 92 degrees apart (Alpha Delta recommends 90). The
SWR is about 1.05:1 to 1.2:1 across the entire cw/phone general portion of 40m's.
10m-20m are anywhere from 1.7:1 to 3:1. 80m is horrible with an SWR of $\geq 500:1$
across the entire band.

I'm able to work the East Coast, Canada, and Baha on SSB on 10m-40m at s2 or
better with 100 watts from San Jose, Calif. I haven't tried CW yet. Currently,
I'm trying to get some tech help from Alpha Delta to address the 80m problem.
I may need to trim it or maybe they shipped the wrong coil for 80m.

Overall, I'm very pleased with it because I'm more interested in 10m-40m than 80m.
If I can get 80m working, that'll be a bonus to me...

73
Gary, KE6BYU...

Date: Thu, 2 Dec 1993 12:43:16 GMT
From: pipex!uknet!nsa.bt.co.uk!andrew@uunet.uu.net
Subject: Packet radio info?
To: ham-ant@ucsd.edu

Hello,

I hope this is an OK place to ask this.

I am interested in looking into packet radio and would be interested in any books or articles that would give me a good introduction.

It would be as a hobby to start with anyway so it would also be useful to know about costs and how to set up a station.

Any help gratefully received

Andrew Muir

Date: 3 Dec 93 12:28:37 GMT

From: ogicse!emory!europa.eng.gtefsd.com!howland.reston.ans.net!math.ohio-state.edu!magnus.acs.ohio-state.edu!wvanhorn@network.ucsd.edu

Subject: Quad spreaders

To: ham-ant@ucsd.edu

In article <2dlfnjINNg43@hpsdlga1.sdd.hp.com> holt@sdd.hp.com (Holt Mebane) writes:

>I'm trying to hack together a quick 3-el 10 meter quad for next weekend. What's
>the theory on quad spreaders? Must they be non-metallic? Does anyone have a
>decent source for fiberglass spreaders? I was going to use bamboo, but I can't
>find any locally. (Except for live bamboo plants!)

>

>Thanks.

>

>--

>Holt Mebane, N4HR

>Hewlett-Packard

>San Diego Technical Graphics Division

>619-592-4882

Holt -

I think you had better use non-conductive spreaders. You indicate you want a quick & dirty solution, so I would make it all out of wood. Ten meter spreaders should be of the order of 8-feet, or less, and the boom about the same. I would make a boom of a 2 X 4 and the spreaders of 1/4" X 1-1/2" (or thereabouts) "trellis slats", available from any lumber yard (at least in Ohio). These are usually clear pine or spruce, reasonably light weight and strong enough for spreaders at 10-meters, I would think. Especially since the wire acts as stiffeners in the plane of the narrow dimension.

Good luck and 73, Van - W8UOF

wvanhorn@magnus.acs.ohio-state.edu

End of Ham-Ant Digest V93 #132
